

## ABSTRACT

Compositions and methods are provided for controlling pests by using cocktails of plant alkaloids. In particular, the pesticidal composition is 5 formulated with water-miscible solvent and comprises two or more plant alkaloids selected from the group consisting of toosendanin, azadirachtin, tomatine, stemonine, nicotine, anabasine, matrine, oxymatrine, 10 sophocarpine, N-oxysophocarpine, cytisine, and aloperine. The water-miscible pesticide can be used to protect crop plants, wood structures and animals from damages by harmful pests, overcome resistance of pests to current commercial pesticides, and reduce contamination to the 15 environment.